

**Commonwealth of Kentucky  
Environmental and Public Protection Cabinet  
Department for Environmental Protection  
Division for Air Quality  
803 Schenkel Lane  
Frankfort, Kentucky 40601  
(502) 573-3382**

**Proposed**

**AIR QUALITY PERMIT  
Issued under 401 KAR 52:020**

**Permittee Name:** Covalence Specialty Adhesives  
**Mailing Address:** 2320 Bowling Green Road, Franklin, KY 42134

**Source Name:** Covalence Specialty Adhesives  
**Mailing Address:** 2320 Bowling Green Road  
Franklin, KY 42134

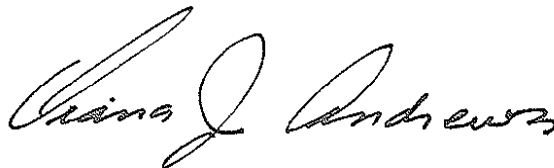
**Source Location:** Same as above

**Permit Number:** V-06-023  
**Source A. I. #:** 3975  
**Activity #:** APE20040003  
**Review Type:** Operating, Title V  
**Source ID #:** 21-213-00011

**Regional Office:** Bowling Green Regional Office  
1508 Westen Avenue  
Bowling Green, KY 42104  
(270) 746-7475

**County:** Simpson

**Application**  
**Complete Date:** January 29, 2004  
**Issuance Date:** February 12, 2007  
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**John S. Lyons, Director  
Division for Air Quality**

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	Permit type	Log or Activity#	Complete Date	Issuance Date	Summary of Action
V-06-023	Initial Issuance	APE20040003	01/09/2004	02/12/2007	Initial Operating Permit

## **SECTION A - PERMIT AUTHORIZATION**

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

## **SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS**

### **Emission Points 01, 02 and 03 (01, 02, 03)**

### **Cleaver Brooks Boilers (3)**

#### **Description:**

- 01 Natural gas fired Cleaver Brooks boiler with a rated capacity of 8.375 MMBtu/hr. Number two fuel oil is used as secondary fuel.  
Date installed: 7/1962.
- 02 Natural gas fired Cleaver Brooks boiler with a rated capacity of 8.375 MMBtu/hr. Number two fuel oil is used as secondary fuel.  
Date installed: 7/1962.
- 03 Natural gas fired Cleaver Brooks boiler with a rated capacity of 8.375 MMBtu/hr. Number two fuel oil is used as secondary fuel.  
Date installed: 7/1969.

#### **APPLICABLE REGULATIONS:**

Regulation 401 KAR 61:015, Existing indirect heat exchangers, applicable to affected facilities with a capacity of 250 million BTU per hour heat input or less commenced before April 9, 1972, limits particulate and sulfur dioxide emissions.

40 CFR Part 63, Subpart DDDDD National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters. EP 01, EP 02 and EP 03 are classified as small gaseous fuel units. No records or reports are required for existing small units ( $\leq 10$  MMBtu/hr).

#### **1. Operating Limitations:**

The rate of materials used in affected facilities shall not produce emissions which exceed the limitations as described in Section B(2) below.

#### **2. Emission Limitations:**

- a. 401 KAR 61:015 Section 4(1) limits emissions of particulate matter to no more than 0.66 lbs/MM Btu actual heat input.
- b. 401 KAR 61:015 Section 4(3) limits visible emissions to a maximum of 40% opacity except:  
For emission from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

#### **Compliance Demonstration Method for a and b:**

- (1) The boilers are considered to be in compliance when firing natural gas.
- (2) The permittee shall perform a qualitative visual observation of the opacity of emissions from the stack on a weekly basis when burning #2 fuel oil and maintain a log of the observations. If emissions from the stack are seen, the permittee shall determine the opacity of emissions by U.S. EPA Reference Method 9 and initiate an inspection of the unit for any necessary repairs.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- c. 401 KAR 61:015 Section 5(1) limits emissions of any gas which contains sulfur dioxide to no more than 3.73 lbs/mmBtu actual heat input.

**Compliance Demonstration Method:**

- (1) The boilers are considered to be in compliance when firing natural gas.  
(2) The boilers are considered to be in compliance when the weight percent sulfur in the #2 fuel oil does not exceed 0.5% as required by **1. Operating Limitations**

**3. Testing Requirements:**

If requested by the cabinet pursuant to 401 KAR 61:015, Section 7, particulate, sulfur dioxide and visible emission limitations specified herein shall be measured by EPA Reference Methods 5, 6 and 9 respectively, 40 CFR 60, Appendix A.

**4. Specific Monitoring Requirements:**

- a. The permittee shall monitor the type and amount of each fuel burned.  
b. The permittee shall monitor the sulfur content of No. 2 fuel oil combusted. The permittee may use fuel supplier certification to meet this requirement.

**5. Specific Recordkeeping Requirements:**

- a. The permittee shall keep a monthly record of the type and amount of each fuel used.  
b. For each purchase of the No. 2 fuel oil, the permittee shall keep records of the sulfur content.  
c. The permittee shall keep all records of regular maintenance and any necessary repairs to the equipment.

**6. Specific Reporting Requirements: None**

**7. Specific Control Equipment Operating Conditions: None**

**8. Alternate Operating Scenarios: None**

## **SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

### **Emission Point 04 (04) Cleaver Brooks Boiler**

#### **Description:**

Natural gas fired Cleaver Brooks boiler with a rated capacity of 8.369 MMBtu/hr. Number two fuel oil is used as secondary fuel.

Date installed: 1/1/1976.

#### **APPLICABLE REGULATIONS:**

Regulation 401 KAR 59:015, New indirect heat exchangers, applicable to affected facilities with a capacity of 250 million BTU per hour heat input or less commenced after April 9, 1972, limits particulate and sulfur dioxide emissions.

40 CFR Part 63, Subpart DDDDD National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters. EP 04 is classified as small gaseous fuel units. No records or reports are required for existing small units ( $\leq 10$  MMBtu/hr).

#### **1. Operating Limitations:**

The rate of materials used in affected facilities shall not produce emissions which exceed the limitations as described in Section B(2) below.

#### **2. Emission Limitations:**

##### **401 KAR 59:015**

a. Section 4(2) limits visible emissions from each stack to less than 20% opacity except:

§4(2)(b). A maximum of 40% opacity shall be permissible for not more than 6 consecutive minutes in any 60 consecutive minutes during cleaning the firebox or blowing soot.

§4(2)(c). For emissions from an indirect heat exchanger during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

b. Section 4(1)(a) limits emissions of particulate matter to 0.42 pounds per million BTU actual heat input.

##### **Compliance Demonstration Method for a and b:**

(1) The boilers are considered to be in compliance when firing natural gas.

(2) The permittee shall perform a qualitative visual observation of the opacity of emissions from the stack on a weekly basis when burning #2 fuel oil and maintain a log of the observations. If emissions from the stack are seen, the permittee shall determine the opacity of emissions by U.S. EPA Reference Method 9 and initiate an inspection of the unit for any necessary repairs.

c. Section 5(1)(a) limits emissions of sulfur dioxide to 1.82 pounds per million BTU actual heat input.

##### **Compliance Demonstration Method:**

(1) The boiler is considered to be in compliance when firing natural gas.

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

(2) The boiler is considered to be in compliance when the weight percent sulfur in the #2 fuel oil does not exceed 0.5% as required by **1. Operating Limitations**

**3. Testing Requirements:**

If requested by the cabinet, pursuant to 401 KAR 59:015, Section 8, particulate, sulfur dioxide and visible emission limitations specified herein shall be measured by EPA Reference Methods 5, 6 and 9 respectively, 40 CFR 60, Appendix A.

**4. Specific Monitoring Requirements:**

- a. The permittee shall monitor the type and amount of each fuel burned.
- b. No other specific monitoring is required when the boiler is fired with natural gas.
- c. The permittee shall monitor sulfur content of No. 2 fuel oil combusted. The permittee may use fuel supplier certification to meet this requirement.

**5. Specific Recordkeeping Requirements:**

- a. For each purchase of the No. 2 fuel oil, the permittee shall keep records the sulfur content.
- b. The permittee shall keep all records of regular maintenance and any necessary repairs to the equipment.

**6. Specific Reporting Requirements:**                      None

**7. Specific Control Equipment Operating Conditions:**                      None

**8. Alternate Operating Scenarios:**                      None

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Emission Point 95 (95) Flexographic Printers (4)**

**Description:**

Flexographic printers: Three 6" narrow width offset printers use metering roll, annilox roll and print roll to transfer ink from an open well to substrate either plastic film or paper. The printed web passes through electrically heated oven to evaporate water from the ink. The mode of surface coating is batch and manual. Maximum coating application rate is 1.2 gal per hour per printer.

Flexographic printer: One 12" narrow width offset printer uses metering roll, annilox roll and print roll to transfer ink from an open well to substrate either plastic film or paper. The printed web passes through electrically heated oven to evaporate water from the ink. The mode of surface coating is batch and manual. Maximum coating application rate is 1.2 gal per hour.

Control equipment: None

Construction commenced: November, 2001

**APPLICABLE REGULATIONS:**

401 KAR 59:212 New Graphic Arts Facilities Using Rotogravure and Flexography, applicable to each affected facility commenced on or after February 4, 1981.

40 CFR 63, Subpart KK, National Emission Standards for the Printing and Publishing Industry.

**1. Operating Limitations:**

The rate of materials used in affected facilities shall not produce emissions which exceed the limitations as described in Section B(2) below.

**2. Emission Limitations:**

A. 401 KAR 59:212, Section 6 states that affected facility is exempt from Section 3 of this administrative regulation if the printing system utilizes a waterborne ink whose volatile portion consists of seventy-five (75) volume per cent water and twenty-five (25) volume per cent organic solvent (or lower VOC content) in all printing units.

**Compliance demonstration method:**

The permittee shall keep daily records of all ink materials used at each affected facility in addition to the VOC content of each material used, and any calculations necessary to demonstrate exemption from the emission limit of 401 KAR 59:212, Section 3.

B. 40 CFR 63 Subpart KK, §63.825(b)(1). The permittee shall demonstrate that each ink, coating, adhesive, solvent, and other material applied during the month contains no more than 0.04 weight-fraction organic HAP, on an as-purchased basis, as determined in accordance with §63.827(b)(2)(i).



**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****Compliance demonstration method:**

§63.827(b)(2)(i). The permittee may test the material in accordance with Method 311 of appendix A of the Part 63. The Method 311 determination may be performed by the manufacturer of the material and the results provided to the owner or operator. If these values cannot be determined using Method 311, the owner or operator shall submit an alternative technique for determining their values for approval by the Division. The recovery efficiency of the technique must be determined for all of the target organic HAP and a correction factor, if necessary, must be determined and applied.

**3. Specific Testing Requirements:**

If deemed necessary, the department shall obtain samples of the coatings and inks used at the affected facility to verify that the coatings and inks meet the requirements of Section 6 of 401 KAR 59:212. Appendix A to 40 CFR 60, Method 24A, which has been incorporated by reference in 401 KAR 50:015, shall be used as applicable to determine compliance of the coatings and inks unless the department determines that other methods would be more appropriate.

**4. Specific Monitoring Requirements:** See Record Keeping Requirements**5. Specific Record Keeping Requirements:**

A. 401 KAR 212, Section 4(8). Daily records shall be maintained by the source for the most recent two-year period. These records shall be made available to the cabinet or the USA EPA upon request. These records shall include, but not be limited to, the following:

1. Applicable administrative regulation number;
2. Application method and ink type;
3. Amount and type of graphic arts material or solvent used at each point of application, including exempt compounds;
4. The VOC content as applied in each graphic arts material or solvent ;
5. The date of each application for graphic arts material or solvent;
6. The amount of surface preparation, clean up, or wash up solvent (including exempt compounds) used and the VOC content of each.
7. The amount of exempt solvents shall be subtracted from the amount of inks, just like water, with the ultimate value of interest being the mass of VOC per unit volume of ink less exempt solvent or water or both.

B. 40 CFR 63 Subpart KK, §63.829. The permittee shall maintain records on a monthly basis of all inks and other materials used in accordance with the requirements of §63.10(b)(1) to determine HAP content and demonstrate compliance with the emission standards under §63.825(b)(1).

**6. Specific Reporting Requirements:**

The permittee shall submit a summary report on a semi annual basis which includes:

- A. VOC inputs to the coating process in tons per 12 months period.

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- B. Any exceedances of the standard under 40 CFR 63 Subpart KK, §63.825 (b)(1), more than 0.04 weight-fraction organic HAP, on an as-purchased basis, for each ink, coating, adhesive, solvent, and other material applied during the month, on an as purchased basis.

7. Specific Control Equipment Operating Conditions: None

8. Alternate Operating Scenarios: None

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Emission Point 12                      (12)                      Spreadline #3**

**Description:**

This emission point includes:

1. Reactor (200 gal.) (not controlled)
2. Emulsifier (200 gal.) (not controlled)
3. Reactor (400 gal.) (not controlled)
4. Six Lightnin Mixers (not controlled)
5. Day Mixer (not controlled)
6. Substrate unwind
7. Primer Booth Enclosure
8. Coater Booth Enclosure
9. Spread line: Foil, Cloth, Paper and Film
10. Drying ovens: Rated capacity of 10 MMBtu/hr
11. Tape rewind station.
12. Thermal Oxidizer Burner: Rated capacity 27 MMBtu/hr
13. Cleanup (not controlled)

Type of controller: Recuperative thermal oxidizer; natural gas fired with a heat input of 27 MMBtu/hr.

Actual destruction efficiency of the thermal oxidizer is based on the most recent stack test.

Permanent total enclosure: Claimed capture efficiency of 100% both at Primer Booth Enclosure and Coater Booth Enclosure.

Date commenced: April 1981

**APPLICABLE REGULATIONS:**

401 KAR 59:210, New fabric, vinyl and paper surface operations, applicable to each affected facility commenced on or after June 29, 1979.

40 CFR 60, Subpart RR, Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations.

40 CFR 63, Subpart JJJJ- National Emission Standard for Hazardous Air Pollutants: paper and other web coating, applicable to each affected facility commenced on or before September 13, 2000 as an existing source. See group requirements for 40 CFR 63 Subpart JJJJ

**1.        Operating Limitations:**

Usage rate of adhesive and solvents containing VOC/HAP shall be restricted so as not to exceed the appropriate emission limitations in Section B.2.

**2.        Emission Limitations:**

**A.   Emission limits from previous operating permits:**

- (1). VOC emission limit for adhesive applicators is 37 tons per year.

**Compliance demonstration:** See Section D.2.

- (2). VOC emission limit for Lightnin and Day mixers is 19.46 tons per year.

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Compliance demonstration:** See Section D.2.

**B. 401 KAR 59:210, Section 3, Standard for VOCs:**

No person shall cause, allow, or permit an affected facility to discharge into the atmosphere more than fifteen (15) percent by weight of the VOCs net input into the affected facility. VOC net input means the total amount of VOCs in lbs input to the affected facility minus the amount of VOCs that are not emitted into the atmosphere. VOCs that are prevented from being emitted to the atmosphere by the use of control devices shall not be subtracted from the total for the purposes of determining VOCs net input.

**Initial compliance plan**

VOC emissions from the spreadline will be used in making the initial compliance demonstration with the 85% control requirement on a daily basis. Adhesive spreadline operation shall have the definition as a coating line in 401 KAR 59:210, Section 1(7). Compliance with the 85% control of VOC emissions shall be demonstrated for a typical day of operation based on continuous measurements taken by the following methodology:

1. The initial daily overall control efficiency demonstration shall be based on the most recent compliance test for the spreadline and the most recent emission factor estimates for the uncontrolled operations.
2. The control efficiency for VOC emissions from the spreadline is the product of the overall capture efficiency of the permanent total enclosures and the weighted average (by adhesive usage) Regenerative Thermal Oxidizer (RTO) destruction efficiency.
3. The VOC emissions from the miscellaneous operations at the facility that are not controlled are listed above in the emission point description.
4. For the initial compliance demonstration, the permittee shall record all hours when adhesive mix room is exhausted to the atmosphere. The VOC emissions (lb/hr) for the mixers and reactors from the most recent emission factor estimate shall be multiplied by the hours of venting the adhesive mixers and reactors to the atmosphere to determine the daily lbs of VOC emissions. These values shall be used in the initial compliance demonstration equation for the spreadline.

**Initial Compliance Demonstration Equation:**

Spreadline control efficiency (%) =  $[1 - (\text{atmospheric VOC emissions} / \text{VOC net input})] \times 100$

Where

Atmospheric VOC emissions =  $[\Sigma \text{ daily spreadline VOC input (lbs)}] \times [1.0 - \text{Overall capture efficiency for spreadline}] \times [1.0 - \text{Overall control efficiency for spreadline}] + [\text{maximum hours of operation per day from adhesive mixers}] \times [(\text{lb/hr}) \text{ VOC emission rate determined from the most recent emission factor estimate}] + [\text{maximum daily VOC emissions from other ancillary sources associated with the spreadline (lbs)}]$

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

VOC net input =  $[\Sigma \text{ daily spreadline VOC input (lbs)}] + [(\text{maximum hours of operation per day from adhesive mixers}) \times [(\text{lb/hr}) \text{ emission rate determined from the most recent emission factor estimate}]] + [\text{maximum daily VOC emissions from other ancillary sources on line (lbs)}]$

- C. The spreadline control efficiency (%) is the value that is compared to the permit limitation of 85% control.

**Continuing compliance**

After demonstrating initial compliance using the compliance demonstration equation, the permittee will not be required to quantify coating usage on a 24-hour basis for the purposes of continuous compliance with 401 KAR 59:210 unless requested by the Division. Continuing daily compliance with the 85 % control requirement will be demonstrated based on the integrity of the permanent total enclosures and operating temperatures of the RTO.

**1. Permanent Total Enclosure Monitoring:**

Continuous compliance with the 100% capture requirement will be demonstrated when the pressure differential is at least negative 0.007 inches of H<sub>2</sub>O (from the outside of the permanent total enclosure to the inside of the permanent total enclosure for the spreadline. This corresponds to a facial velocity of air entering the permanent total enclosure of at least 200 feet per minute pursuant to US EPA Method 204, Section 8.3.

**2. RTO Compliance Demonstration:**

- a. The permittee shall develop and implement a written startup, shutdown, and malfunction plan. The plan must also address the corrective actions in case of a malfunction of the permanent total enclosure.
- b. The permittee shall install, calibrate, maintain, and operate temperature monitoring equipment according to the manufacturer's specifications. The calibration of the chart recorder, data logger, or temperature indicator must be verified every 3 months or the chart recorder, data logger, or temperature indicator must be replaced. The equipment must be replaced whether the permittee chooses not to perform the calibration or the equipment cannot be calibrated properly.
- c. The permittee shall install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device must have an accuracy of  $\pm 1$  percent of the temperature being monitored in degrees Celsius, or  $\pm 1$  °Celsius, whichever is greater. The thermocouple or temperature sensor must be installed in the combustion chamber at a location in the combustion zone.
- d. The combustion chamber temperature of the control equipment shall be recorded continuously on chart recorders. The records shall be made readily available for inspection. Additionally, records shall be maintained of each occurrence where the combustion chamber temperature falls 50°F or more below the temperature as determined during the most recent stack test (3-hour average). All such occurrences shall be considered deviations from permit requirements.

## SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

### C. 60.442 Standard for volatile organic compounds.

§60.442(a)(2). Demonstrate for each affected facility;

- (i) A 90 percent overall VOC emission reduction as calculated over a calendar month; or
- (ii) The percent overall VOC emission reduction specified in §60.443(b) as calculated over a calendar month.

§60.443(b). To determine compliance with §60.442(a)(2), the owner or operator shall calculate the required overall VOC emission reduction according to the following equations:

$$G = \frac{\sum_{i=1}^n W_{oi} M_{ci}}{\sum_{i=1}^n W_{si} M_{ci}}$$

Where

G = the calculated weighted average mass (kg) of VOC per mass (kg) of coating solids applied each calendar month.

M<sub>ci</sub> = the total mass (kg) of each coating (i) applied during the calendar month as determined from facility records.

W<sub>si</sub> = the weight fraction of solids applied of each coating (i) applied during a calendar month as determined from Method 24 or coating manufacturer's formulation data.

W<sub>oi</sub> = the weight fraction of organics applied of each coating (i) applied during a calendar month as determined from Method 24 or coating manufacturer's formulation data.

$$R_q = \frac{G - 0.2}{G} \times 100$$

Where

R<sub>q</sub> = the required overall VOC emission reduction (in percent).

If R<sub>q</sub> is less than or equal to 90 percent, then the required overall VOC emission reduction is R<sub>q</sub>.

If R<sub>q</sub> is greater than 90 percent, then the required overall VOC emission reduction is 90 percent.

§60.443(d). The permittee shall determine calendar monthly compliance by comparing the monthly required overall VOC emission reduction specified in §60.443(b) to the overall VOC emission reduction demonstrated in the most recent performance test which complied with §60.442(a)(2). If the monthly required overall VOC emission reduction is less than or equal to the overall VOC reduction of the most recent performance test, the affected facility is in compliance with §60.442(a)(2).

## SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

§60.443(e). The permittee shall continuously record the recuperative thermal oxidizer combustion temperature during coating operations that is, the recording devices associated with thermal oxidizer shall monitor and update the combustion chamber screen every five minutes. The permittee shall record all 3-hour periods (during actual coating operations) during which the average temperature of the thermal oxidizer is more than 28 °C (50 °F) below the average temperature of the thermal oxidizer during the most recent performance test complying with §60.442(a)(2).

§60.443(f). After the initial performance test required for all affected facilities under §60.8, compliance with the VOC emission limitation and percentage reduction requirements under §60.442 is based on the average emission reduction for one calendar month. A separate compliance test is completed at the end of each calendar month after the initial performance test, and a new calendar month's average VOC emission reduction is calculated to show compliance with the standard.0

§60.443(j). Startups and shutdowns are normal operation for this source category. Emissions from these operations are to be included when determining if the standard specified at §60.442(a)(2) is being attained.

D. §63.3320, Emission standards (Subpart JJJJ). See group requirement for 40 CFR 63 Subpart JJJJ.

### 3. Specific Testing Requirements:

§60.444(c). The performance test for affected facilities controlled by a recuperative thermal oxidizer shall be conducted as follows:

(1) The performance of the thermal oxidizer shall be determined by averaging the results of three test runs as specified in §60.8(f).

(2) Determine for each affected facility prior to each test run the weighted average mass of VOC per mass of coating solids applied being used at the facility.

The weighted average shall be determined as specified in §60.443(a). In this application the quantities of  $W_{oi}$ ,  $W_{si}$ , and  $M_{ci}$  shall be determined for the time period of each test run and not a calendar month as specified in §60.441.

(3) Calculate the required percent overall VOC emission reduction as specified in §60.443(b).

(4) Determine the percent overall VOC emission reduction of the thermal oxidizer by the following equation and procedures:

$$R = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi} + \sum_{k=1}^n Q_n C_n} \times 100$$

Where

$C_{aj}$  = the concentration of VOC (carbon equivalent) in each gas stream (j) exiting the emission control device, in parts per million by volume.

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

$C_{bi}$  = the concentration of VOC (carbon equivalent) in each gas stream (i) entering the emission control device, in parts per million by volume.

$C_{fk}$  = the concentration of VOC (carbon equivalent) in each gas stream (k) emitted directly to the atmosphere, in parts per million by volume.

$Q_{aj}$  = the volumetric flow rate of each effluent gas stream (j) exiting the emission control device, in dry standard cubic meters per hour.

$Q_{bi}$  = the volumetric flow rate of each effluent gas stream (i) entering the emission control device, in dry standard cubic meters per hour.

$Q_{fk}$  = the volumetric flow rate of each effluent gas stream (k) emitted to the atmosphere, in dry standard cubic meters per hour.

(a) The permittee shall construct the overall VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in §60.446(b).

(b) If the Division is satisfied with the permanent total enclosure that is totally capturing fugitive VOC emissions, then no additional total enclosure will be required for the performance test.

(c) For each affected facility where the value of R is greater than or equal to the value of  $R_q$  calculated in §60.443(b), compliance with §60.442(a)(2) is demonstrated.

**4. Specific Monitoring Requirements:**

60.445. The permittee shall maintain a calendar month record of all coatings used and the results of the reference test method specified in §60.446(a) or the manufacturer's formulation data used for determining the VOC content of those coatings.

The permittee shall install, calibrate, maintain, and operate a monitoring device which continuously indicates and records the temperature of the thermal oxidizer's exhaust gases. The monitoring device shall have an accuracy of the greater of  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5$  °C.

The permittee shall install, calibrate, maintain, and operate a monitoring device which continuously indicates that the enclosure is operating. No continuous monitor shall be required if the permittee can demonstrate that the enclosure system is interlocked with the affected facility's oven recirculation air system.

§63.3410. See group requirements for 40 CFR 63 Subpart JJJJ

**5. Specific Recordkeeping Requirements:**

401 KAR 59:210, Section 4. The permittee shall maintain daily records for the most recent two-year period. These records shall be made available to the cabinet or the US EPA upon request. These records shall include, but not be limited to, the following:

1. Applicable administrative regulation number;
2. Application method and substrate type;
3. Amount and type of adhesive material or solvent used at each point of application, including exempt compounds;



**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

4. The VOC content as applied in each adhesive material or solvent;
5. The date of each application for adhesive material or solvent;
6. The amount of surface preparation, clean up, or wash up solvent (including exempt compounds) used and the VOC content of each material;
7. The amount of exempt solvents shall be subtracted from the amount of adhesive material, just like water, with the ultimate value of interest being the mass of VOC per unit volume of coatings less exempt solvent or water or both.

§60.445(h). Records of the measurements required in §§60.443 and 60.445 must be retained for at least two years following the date of the measurements.

§63.3400. See group requirements for 40 CFR 63 Subpart JJJJ

**6. Specific Reporting Requirements:**

§60.447. For all affected facilities subject to compliance with §60.442, the performance test data and results from the performance test shall be submitted to the Division or as specified in §60.8(a) of the General Provisions (40 CFR part 60, subpart A). Following the initial performance test, the permittee shall submit quarterly reports to the Division of exceedances of the VOC emission limits specified in §60.442. If no such exceedances occur during a particular quarter, a report stating this shall be submitted to the Division semiannually. The permittee shall also submit reports at the frequency specified in §60.7(c) when the thermal oxidizer temperature drops as defined under §60.443(e). If no such periods occur, the permittee shall state this in the report.

§63.3400. See group requirements for 40 CFR 63 Subpart JJJJ

**7. Alternate Operating Scenarios: None**

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Emission Point 82                      (82)                      Spreadline #5**

**Description:**

This emission point includes:

1. Reactor (200 gal.)/Emulsifier (200 gal) (not controlled)
2. Reactor (200 gal.)/Emulsifier (200 gal) (not controlled)
3. Day Mixer (not controlled)
4. Six Lightnin Mixers (not controlled)
5. Substrate unwind
6. Primer Booth Enclosure
7. Coater Booth Enclosure
8. Spread line: Foil, Cloth, Paper and Film
9. Drying ovens: Natural gas fired with a heat input of 25.2 MMBtu/hr natural gas
10. Tape rewind station
11. Thermal Oxidizer Burners: Rated capacity 15 MMBtu/hr natural gas.
12. Cleanup (not controlled)

Type of controller: Recuperative thermal oxidizer; natural gas fired with a heat input of 15 MMBtu/hr

Actual destruction efficiency of the thermal oxidizer is based on the most recent stack test.

Permanent total enclosure: Claimed capture efficiency of 100% both at Primer Booth Enclosure and Coater Booth Enclosure.

Date commenced: 1996

**APPLICABLE REGULATIONS:**

401 KAR 59:210, New fabric, vinyl and paper surface operations, applicable to each affected facility commenced on or after June 29, 1979.

40 CFR 60, Subpart RR, Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations.

40 CFR 63, Subpart JJJJ- National Emission Standard for Hazardous Air Pollutants: paper and other web coating, applicable to each affected facility commenced on or before September 13, 2000 as an existing source. See group requirements for 40 CFR 63 Subpart JJJJ

**1.        Operating Limitations:**

Usage rate of adhesive and solvents containing VOC/HAP shall be restricted so as not to exceed the appropriate emission limitations in Section B.2.

**2.        Emission Limitations:**

**A.       Emission Limits from previous operating permits**

1.        VOC emission limit for adhesive applicators is 77.2 tons per year.

**Compliance demonstration:** See Section D.2.

2.        VOC emission limit for Lightnin and daily mixers is 3.43 tons per year.

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Compliance demonstration:** See Section D.2.

**B. 401 KAR 59:210, Section 3, Standard for VOCs:**

No person shall cause, allow, or permit an affected facility to discharge into the atmosphere more than fifteen (15) percent by weight of the VOCs net input into the affected facility. VOC net input means the total amount of VOCs in lbs input to the affected facility minus the amount of VOCs that are not emitted into the atmosphere. VOCs that are prevented from being emitted to the atmosphere by the use of control devices shall not be subtracted from the total for the purposes of determining VOCs net input.

**Initial Compliance Plan:**

VOC emissions from the line will be used in making the initial compliance demonstration with the 85% control requirement on a daily basis. Adhesive spreadline operation shall have the definition as a coating line in 401 KAR 59:210, Section 1(7). Compliance with the 85% control of VOC emissions shall be demonstrated for a typical day of operation based on continuous measurements taken by the following methodology:

1. The initial daily overall control efficiency demonstration shall be based on the most recent compliance test for the spreadline and the most recent emission factor estimates for the uncontrolled operations.
2. The control efficiency for VOC emissions from the spreadline is the product of the overall capture efficiency of the permanent total enclosures and the weighted average (by adhesive usage) Regenerative Thermal Oxidizer (RTO) destruction efficiency.
3. The VOC emissions from the miscellaneous operations at the facility that are not controlled are listed above in the emission point description.
4. For the initial compliance demonstration, the permittee shall record all hours when adhesive mix room is exhausted to the atmosphere. The VOC emissions (lb/hr) for the mixers and reactors from the most recent emission factor estimate shall be multiplied by the hours of venting the adhesive mixers and reactors to the atmosphere to determine the daily lbs of VOC emissions. These values shall be used in the initial compliance demonstration equation for the spreadline.

**Initial Compliance Demonstration Equation:**

Spreadline Control efficiency (%) =  $[1 - (\text{atmospheric VOC emissions} / \text{VOC net input})] \times 100$

Atmospheric VOC emissions =  $[\Sigma \text{ daily spreadline VOC input (lbs)}] \times [1.0 - \text{Overall capture efficiency for spreadline}] \times [1.0 - \text{Overall control efficiency for spreadline}] + [\text{maximum hours of operation per day from adhesive mixers}] \times [(\text{lb/hr}) \text{ VOC emission rate determined from the most recent emission factor estimate}] + [\text{maximum daily VOC emissions from other ancillary sources associated with the spreadline (lbs)}]$

VOC net input =  $[\Sigma \text{ daily spreadline VOC input (lbs)}] + [(\text{maximum hours of operation per day from adhesive mixers}) \times [(\text{lb/hr}) \text{ emission rate determined from the most recent emission factor estimate}]] + [\text{maximum daily VOC emissions from other ancillary sources on line (lbs)}]$

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

5. The spreadline control efficiency (%) is the value that is compared to the permit limitation of 85% control.

**Continuing compliance**

After demonstrating initial compliance using the compliance demonstration equation, the permittee will not be required to quantify coating usage on a 24-hour basis for the purposes of continuous compliance with 401 KAR 59:210 unless requested by the Division. Continuing daily compliance with the 85 % control requirement will be demonstrated based on the integrity of the permanent total enclosures and operating temperatures of the RTO.

**1. Permanent total enclosure monitoring:**

Continuous compliance with the 100% capture requirement will be demonstrated when the pressure differential is at least negative 0.007 inches of H<sub>2</sub>O (from the outside of the permanent total enclosure to the inside of the permanent total enclosure for the spreadline. This corresponds to a facial velocity of air entering the permanent total enclosure of at least 200 feet per minute pursuant to US EPA Method 204, Section 8.3.

**2. RTO compliance demonstration:**

- a. The permittee shall develop and implement a written startup, shutdown, and malfunction plan. The plan must also address the corrective actions in case of a malfunction of the permanent total enclosure.
- b. The permittee shall install, calibrate, maintain, and operate temperature monitoring equipment according to the manufacturer's specifications. The calibration of the chart recorder, data logger, or temperature indicator must be verified every 3 months or the chart recorder, data logger, or temperature indicator must be replaced. The equipment must be replaced whether the permittee chooses not to perform the calibration or the equipment cannot be calibrated properly.
- c. The permittee shall install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device must have an accuracy of  $\pm 1$  percent of the temperature being monitored in degrees Celsius, or  $\pm 1$  °Celsius, whichever is greater. The thermocouple or temperature sensor must be installed in the combustion chamber at a location in the combustion zone.
- d. The combustion chamber temperature of the control equipment shall be recorded continuously on chart recorders. The records shall be made readily available for inspection. Additionally, records shall be maintained of each occurrence where the combustion chamber temperature falls 50°F or more below the temperature as determined during the most recent stack test (3-hour average). All such occurrences shall be considered deviations from permit requirements. See Section F8. Also, the corrective action(s) taken shall be recorded. If any such temperature deviation continues for more than one (1) hour, the affected facility shall be shut down until any problems are corrected.

## SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

### C. 60.442 Standard for volatile organic compounds.

§60.442(a)(2). Demonstrate for each affected facility;

- (i) A 90 percent overall VOC emission reduction as calculated over a calendar month; or
- (ii) The percent overall VOC emission reduction specified in §60.443(b) as calculated over a calendar month.

§60.443(b). To determine compliance with §60.442(a)(2), the owner or operator shall calculate the required overall VOC emission reduction according to the following equations:

$$G = \frac{\sum_{i=1}^n W_{oi} M_{ci}}{\sum_{i=1}^n W_{si} M_{ci}}$$

Where

G = the calculated weighted average mass (kg) of VOC per mass (kg) of coating solids applied each calendar month.

M<sub>ci</sub> = the total mass (kg) of each coating (i) applied during the calendar month as determined from facility records.

W<sub>si</sub> = the weight fraction of solids applied of each coating (i) applied during a calendar month as determined from Method 24 or coating manufacturer's formulation data.

W<sub>oi</sub> = the weight fraction of organics applied of each coating (i) applied during a calendar month as determined from Method 24 or coating manufacturer's formulation data.

$$R_q = \frac{G - 0.2}{G} \times 100$$

Where

R<sub>q</sub> = the required overall VOC emission reduction (in percent).

If R<sub>q</sub> is less than or equal to 90 percent, then the required overall VOC emission reduction is R<sub>q</sub>.

If R<sub>q</sub> is greater than 90 percent, then the required overall VOC emission reduction is 90 percent.

§60.443(d). The permittee shall determine calendar monthly compliance by comparing the monthly required overall VOC emission reduction specified in §60.443(b) to the overall VOC emission reduction demonstrated in the most recent performance test which complied with §60.442(a)(2). If the monthly required overall VOC emission reduction is less than or equal to the overall VOC reduction of the most recent performance test, the affected facility is in compliance with §60.442(a)(2).

§60.443(e). The permittee shall continuously record the recuperative thermal oxidizer combustion temperature during coating operations that is, the recording devices

## SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

associated with thermal oxidizer shall monitor and update the combustion chamber screen every five minutes. The permittee shall record all 3-hour periods (during actual coating operations) during which the average temperature of the thermal oxidizer is more than 28 °C (50 °F) below the average temperature of the thermal oxidizer during the most recent performance test complying with §60.442(a)(2).

§60.443(f). After the initial performance test required for all affected facilities under §60.8, compliance with the VOC emission limitation and percentage reduction requirements under §60.442 is based on the average emission reduction for one calendar month. A separate compliance test is completed at the end of each calendar month after the initial performance test, and a new calendar month's average VOC emission reduction is calculated to show compliance with the standard.0

§60.443(j). Startups and shutdowns are normal operation for this source category. Emissions from these operations are to be included when determining if the standard specified at §60.442(a)(2) is being attained.

- D. §63.3320, Emission standards (Subpart JJJJ): See group requirement for 40 CFR 63 Subpart JJJJ.

### 3. Specific Testing Requirements:

§60.444(c). The performance test for affected facilities controlled by a recuperative thermal oxidizer shall be conducted as follows:

(1) The performance of the thermal oxidizer shall be determined by averaging the results of three test runs as specified in §60.8(f).

(2) Determine for each affected facility prior to each test run the weighted average mass of VOC per mass of coating solids applied being used at the facility.

The weighted average shall be determined as specified in §60.443(a). In this application the quantities of Woi, Wsi, and Mei shall be determined for the time period of each test run and not a calendar month as specified in §60.441.

(3) Calculate the required percent overall VOC emission reduction as specified in §60.443(b).

(4) Determine the percent overall VOC emission reduction of the thermal oxidizer by the following equation and procedures:

$$R = \frac{\sum_{i=1}^n Q_{bi} C_{bi} - \sum_{j=1}^m Q_{aj} C_{aj}}{\sum_{i=1}^n Q_{bi} C_{bi} + \sum_{k=1}^n Q_n C_n} \times 100$$

Where

C<sub>aj</sub> = the concentration of VOC (carbon equivalent) in each gas stream (j) exiting the emission control device, in parts per million by volume.

C<sub>bi</sub> = the concentration of VOC (carbon equivalent) in each gas stream (i) entering the emission control device, in parts per million by volume.

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

$C_{fk}$  = the concentration of VOC (carbon equivalent) in each gas stream (k) emitted directly to the atmosphere, in parts per million by volume.

$Q_{aj}$  = the volumetric flow rate of each effluent gas stream (j) exiting the emission control device, in dry standard cubic meters per hour.

$Q_{bi}$  = the volumetric flow rate of each effluent gas stream (i) entering the emission control device, in dry standard cubic meters per hour.

$Q_{fk}$  = the volumetric flow rate of each effluent gas stream (k) emitted to the atmosphere, in dry standard cubic meters per hour.

(a) The permittee shall construct the overall VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in §60.446(b).

(b) If the Division is satisfied with the permanent total enclosure that is totally capturing fugitive VOC emissions, then no additional total enclosure will be required for the performance test.

(c) For each affected facility where the value of R is greater than or equal to the value of  $R_q$  calculated in §60.443(b), compliance with §60.442(a)(2) is demonstrated.

**4. Specific Monitoring Requirements:**

§60.445. The permittee shall maintain a calendar month record of all coatings used and the results of the reference test method specified in §60.446(a) or the manufacturer's formulation data used for determining the VOC content of those coatings.

The permittee shall install, calibrate, maintain, and operate a monitoring device which continuously indicates and records the temperature of the thermal oxidizer's exhaust gases. The monitoring device shall have an accuracy of the greater of  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5$  °C.

The permittee shall install, calibrate, maintain, and operate a monitoring device which continuously indicates that the enclosure is operating. No continuous monitor shall be required if the permittee can demonstrate that the enclosure system is interlocked with the affected facility's oven recirculation air system.

§63.3410. See group requirements for 40 CFR 63 Subpart JJJJ

**5. Specific Recordkeeping Requirements:**

401 KAR 59:210, Section 4. The permittee shall maintain daily records for the most recent two-year period. These records shall be made available to the cabinet or the US EPA upon request. These records shall include, but not be limited to, the following:

1. Applicable administrative regulation number;
2. Application method and substrate type;
3. Amount and type of adhesive material or solvent used at each point of application, including exempt compounds;
4. The VOC content as applied in each adhesive material or solvent;
5. The date of each application for adhesive material or solvent;
6. The amount of surface preparation, clean up, or wash up solvent (including exempt compounds) used and the VOC content of each material;

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

7. The amount of exempt solvents shall be subtracted from the amount of adhesive material, just like water, with the ultimate value of interest being the mass of VOC per unit volume of coatings less exempt solvent or water or both.

§60.445(h). Records of the measurements required in §§60.443 and 60.445 must be retained for at least two years following the date of the measurements.

§63.3400. See group requirements for 40 CFR 63 Subpart JJJJ

**6. Specific Reporting Requirements:**

§60.447. For all affected facilities subject to compliance with §60.442, the performance test data and results from the performance test shall be submitted to the Division or as specified in §60.8(a) of the General Provisions (40 CFR part 60, subpart A). Following the initial performance test, the permittee shall submit quarterly reports to the Division of exceedances of the VOC emission limits specified in §60.442. If no such exceedances occur during a particular quarter, a report stating this shall be submitted to the Division semiannually. The permittee shall also submit reports at the frequency specified in §60.7(c) when the thermal oxidizer temperature drops as defined under §60.443(e). If no such periods occur, the permittee shall state this in the report.

§63.3400. See group requirements for 40 CFR 63 Subpart JJJJ

**7. Alternate Operating Scenarios: None**



**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Emission Point 58 (58)                      Adhesive MEU Line**

**Description:** This is a small adhesive coating line.

Control equipment:   None

Date installed :       July, 1988

**Emission Point 94 (94)                      Hot Melt Feed System**

**Description:** This is a hot melt extrusion line.

Control equipment:   None

Date installed:         July 2000

**Emission Point 98 (98)                      Aztek Hot Melt Adhesive Coating Lines (5)**

**Description:** Aztek Hot Melt adhesive coating operations consist of heated metal heads, heated holding tanks and coating lines. The coated product is taken to a slitter where it is trimmed to the appropriate width and length.

Control equipment:   None

Date installed:         January, 2006

**APPLICABLE REGULATIONS:**

401 KAR 59:210, New fabric, vinyl and paper surface coating operations applicable to each affected facility commenced on or after June 29, 1979.

40 CFR 60, Subpart RR, Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations.

40 CFR 63: Subpart JJJJ, National Emission Standard for Hazardous Air Pollutants: Paper and Other Web Coating. See group requirements for 40 CFR 63 Subpart JJJJ

**1.       Operating Limitations:**

Usage rate of adhesive and solvents containing VOC/HAP shall be restricted so as not to exceed the emission limitations listed in Section B(2).

**2.       Emission Limitations:**

- A. 401 KAR 59:210, Section 6 states that an affected facility coating fabric or paper is exempt from Section 3 of this administrative regulation if the VOC content of the coating is less 2.9 lb/gal, excluding water or exempt solvent or both, delivered to the applicators associated with the coating line.

**Compliance demonstration method:**

The permittee shall keep daily records of all coating and solvent materials used at each affected facility in addition to the VOC content of each material used, and any calculations necessary to demonstrate exemption from the emission limit of 401 KAR 59:210, Section 6.

- B. §60.440(b). Any affected facility which inputs to the coating process 45,000 kilograms (50 tons) of VOC or less per 12 month period is not subject to the emission limits of §60.442(a), however, the affected facility is subject to the requirements of all other applicable sections of this subpart.

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Compliance demonstration method:** See Section D.2.

C. §63.3320. See group requirements for 40 CFR 63 Subpart JJJJ.

**3. Testing Requirements:**

If deemed necessary by the department, the department shall obtain samples of the coatings and adhesives used at the affected facility to verify that the coatings and adhesives meet the requirements of Section 6 of 401 KAR 59:210. Appendix A to 40 CFR 60, Method 24A, which has been incorporated by reference in 401 KAR 50:015, shall be used as applicable to determine compliance of the coatings and adhesives unless the department determines that other methods would be more appropriate.

**4. Monitoring Requirements:** See Record Keeping Requirements

**5. Specific Recordkeeping Requirements:**

- A. 401 KAR 59:210, Section 4. The permittee shall maintain daily records for the most recent two-year period. These records shall be made available to the Division or the USA EPA upon request. These records shall include, but not be limited to, the following:
  - a. Applicable administrative regulation number;
  - b. Application method and substrate type;
  - c. Amount and type of adhesive, coating, or solvent used at each point of application, including exempt compounds.
  - d. The VOC content as applied in each adhesive, coating or solvent ;
  - e. The date of each application for each adhesive, coating or solvent;
  - f. The amount of surface preparation, clean up, or wash up solvent (including exempt compounds) used and the VOC content of each.
- B. 40 CFR 60 Subpart RR, §60.445(a). The permittee shall maintain a calendar month record of all coatings used and MSDS information, reference test methods or manufacturer's formulation data to determine VOC content of those coatings.
- C. 40 CFR 60 Subpart RR, §60.445(d). The permittee shall maintain a 12 month record of the amount of solvent (VOC) applied in the coatings at the facility to demonstrate the exemption from §60.442 specified in §60.440(b).

D. §63.3410: See group requirements for 40 CFR 63 Subpart JJJJ.

**6. Specific Reporting Requirements:**

- A. The permittee shall submit a summary report on a semi annual basis which includes:
  - 1. VOC inputs to the coating process in tons per 12 months period.
  - 2. Any exceedances of the standard under 40 CFR 60 Subpart RR, §60.440 (b), VOC inputs over 50 tons per 12 month period.
  - 3. See group requirements.
  - 4. See Section F(8) for other reporting requirements.
- B. §63.3400: See group requirements for 40 CFR 63 Subpart JJJJ.

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

7. Specific Control Equipment Operating Conditions: None
8. Alternate Operating Scenarios: None

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Emission Points 44, 45, 52, 55, 56, 61, 62 & 83 Calenders (8)**

Calenders are used to apply rubber based coatings to a web substrate.

**Emission Point 37 (37): Cast Film Line**

**Emission Point 56 (56): Polyken # 10 Co-Extrusion Line**

Date installed: 1988

Description: These are small extrusion lines that use no coatings with VOC and HAP constituents, but are part of the affected source for 40 CFR 63, Subpart JJJJ, Paper and Other Web Coating MACT.

**APPLICABLE REGULATIONS:**

40 CFR 63: Subpart JJJJ, National Emission Standard for Hazardous Air Pollutants: Paper and Other Web Coating. See group requirements for 40 CFR 63 Subpart JJJJ

1. **Operating Limitations:** None
2. **Emission Limitations:** See group requirements for 40 CFR 63 Subpart JJJJ
3. **Testing Requirements:** See group requirements for 40 CFR 63 Subpart JJJJ
4. **Monitoring Requirements:** See group requirements for 40 CFR 63 Subpart JJJJ
5. **Specific Recordkeeping Requirements:** See group requirements for 40 CFR 63 Subpart JJJJ
6. **Specific Reporting Requirements:** See group requirements for 40 CFR 63 Subpart JJJJ
7. **Specific Control Equipment Operating Conditions:** None
8. **Alternate Operating Scenarios:** None

## **SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

### **Emission Point 59 (59) Adhesive Foil and Film Printer**

Date installed: October 1993

#### **APPLICABLE REGULATIONS:**

401 KAR 59:212, New graphic arts facilities using rotogravure and flexography operations applicable to each affected facility commenced on or after February 4, 1981 (pursuant to 401 KAR 59:210 Section 1(4)(j)).

40 CFR 63 Subpart KK, National Emission Standards for the Printing and Publishing Industry.

#### **1. Operating Limitations:**

Usage rate of solvents and/or ink containing VOC/HAP shall be restricted so as not to exceed the emission limitations listed in Section B(2).

#### **2. Emission Limitations:**

- A. 401 KAR 59:212, Section 6 states that an affected facility is exempt from Section 3 of this administrative regulation if the printing system utilizes a waterborne ink whose volatile portion consists of seventy-five (75) volume per cent water and twenty-five (25) volume per cent organic solvent (or lower VOC content) in all printing units.

#### **Compliance demonstration method:**

The permittee shall keep daily records of all ink materials used at each affected facility in addition to the VOC content of each material used, and any calculations necessary to demonstrate exemption from the emission limit of 401 KAR 59:212, Section 6.

- B. 40 CFR 63 Subpart KK, Section 63.825 (b)(1). The permittee shall limit organic HAP emissions to no more than 4 percent of the mass of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month as determined in accordance with Sec. 63.827(b)(2)(i).

#### **Compliance demonstration method:**

§63.827(b)(1)(iii), The permittee may use formulation data to determine the weight fraction organic HAP of a material, pursuant to § 827(b)(1)(iii)(A) through (D). In the event of an inconsistency between the formulation data and the result of Method 311 of appendix A of part 63, where the test result is higher, the Method 311 data will take precedence unless, after consultation, the permittee can demonstrate to the satisfaction of the Division that the formulation data are correct. The organic HAP content determined by Method 311 must be calculated according to the criteria and procedures in § 63.827(b)(1)(i)(A) through (C). If these values cannot be determined using Methods 24A or 311, the owner or operator shall submit an alternative technique for determining their values for approval by the Division. The recovery efficiency of the technique must be determined for all of the target organic HAP and a correction factor, if necessary, must be determined and applied.

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****3. Testing Requirements:**

If deemed necessary by the department, the department shall obtain samples of the coatings and inks used at the affected facility to verify that the coatings and inks meet the requirements of Method 24A, which has been incorporated by reference in 401 KAR 50:015, shall be used as applicable to determine compliance of the inks and coatings unless the department determines that other methods would be more appropriate.

**4. Monitoring Requirements:** See Record Keeping Requirements**5. Specific Recordkeeping Requirements:**

A. 401 KAR 59:212, Section 4. The permittee shall maintain daily records for the most recent two-year period. These records shall be made available to the Division or the USA EPA upon request. These records shall include, but not be limited to, the following:

1. Applicable administrative regulation number;
2. Application method and substrate type;
3. Amount and type of graphic arts material or solvent used at each point of application, including exempt compounds;
4. The VOC content as applied in each graphic arts material or solvent;
5. The date of each application for graphic arts material or solvent;
6. The amount of surface preparation, clean up, or wash up solvent (including exempt compounds) used and the VOC content of each.
7. The amount of exempt solvents shall be subtracted from the amount of inks, just like water, with the ultimate value of interest being the mass of VOC per unit volume of ink less exempt solvent or water or both.

B. 40 CFR 63 Subpart KK, Section 63.829(e)(2). The permittee shall maintain records of the total mass and organic HAP content of each material applied on this emission unit during each month in accordance with the requirements of 63.10(b)(1) to determine HAP content and demonstrate compliance with the emission standards under 63.825(b)(1).

**6. Specific Reporting Requirements:**

Any exceedances of the standard under 40 CFR 63 Subpart KK, Section 63.825 (b)(1), i.e. more than 4 percent of the mass of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month.

**7. Specific Control Equipment Operating Conditions:** None**8. Alternate Operating Scenarios:** None

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- EP 30**            **(30)    Nauta Primer Mixer/Condenser**  
This is an adhesive mixer unit with an integral condenser.  
Date installed: June 1969
- EP 31**            **(31)    Primer Fill and Transfer Operations**  
Control equipment: None  
Date installed: November 1978
- EP 32**            **(32)    Primer Storage Tanks (4)**  
Control equipment: None  
Date installed: February 1977

**APPLICABLE REGULATIONS:**

40 CFR 63: Subpart HHHHH, *National Emission Standard for Hazardous Air Pollutants*.

Emission points (EP 30, EP 31 and EP 32) met the definition of affected source pursuant to 40 CFR 63.7985(b), for the miscellaneous coating manufacturing operations at the Covalence facility. These emission points include a process vessel, transfer operations, storage tanks for products, and equipment leaks from components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems in organic HAP service. Compliance date for 40 CFR subpart HHHHH is December 11, 2006. Each point listed in the group requirements is an existing affected source.

**1.    Emission Limitations:**

§63.8005(a). *Process vessel requirements (EP 30)*. The permittee shall meet the work practice standards contained in Table 1 of subpart HHHHH, i.e. equip the vessel with a tightly fitting vented cover or lid that must be closed at all times when the vessel contains a HAP, except during period of startup, shutdown and malfunction (§63.8000(a)). No emission limits are applicable since the exhaust vent from the Nauta mixer is not considered to be a process vessel vent pursuant to §63.8105.

§63.8015(a). *Emission limit for equipment leaks (Table 3)*. The permittee shall comply with the requirements of §§63.424(a) through (d) and §63.428(e) and (f), except as specified in §63.8015 (b) through (d) of this section.

§63.8005(d)(3). Compliance requirements (EP 30). The permittee has elected to conduct an applicability determination using engineering and test data under worst case operating conditions pursuant to §63.8105, to demonstrate that the Nauta mixer exhaust vent uncontrolled emissions after the process condenser contain <50 ppmv HAP and thus, is not considered to be a process vent. The permittee shall submit the results of the applicability determination to the Division for review and approval.

§63.424. *Compliance with leak detection*. For the detection of equipment leaks, the permittee shall comply with the requirements of §63.424(a) through (d):

- (a) Perform a monthly leak inspection of all equipment in organic HAP service. For this inspection, detection methods incorporating sight, sound, and smell are acceptable.
- (b) A log book shall be used and shall be signed by the permittee at the completion of each inspection. A section of the log shall contain a list, summary description, or

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

diagram(s) showing the location of all equipment in organic HAP service at the facility.

- (c) Each detection of a liquid or vapor leak shall be recorded in the log book. When a leak is detected, an initial attempt at repair shall be made as soon as practicable, but no later than 5 calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 15 calendar days after detection of each leak, except as provided in paragraph (d) of this section.
- (d) Delay of repair of leaking equipment will be allowed upon a demonstration to the Division that repair within 15 days is not feasible. The permittee shall provide the reason(s) a delay is needed and the date by which each repair is expected to be completed.

§63.6(e)(3). *Startup, Shutdown and Malfunction Plan (SSMP)*. The permittee shall develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the Nauta Mixer (EP 30) during periods of startup, shutdown, and malfunction; and a program of corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with subpart HHHHH.

**2. Specific Recordkeeping Requirements:**

§63.428(e). *Recordkeeping for equipment leaks*. The permittee shall comply with §63.428(e), i.e. record the following information in the log book for each leak that is detected:

- (1) The equipment type and identification number;
- (2) The nature of the leak (i.e., vapor or liquid) and the method of detection (i.e., sight, sound, or smell);
- (3) The date the leak was detected and the date of each attempt to repair the leak;
- (4) Repair methods applied in each attempt to repair the leak;
- (5) “Repair delayed” and the reason for the delay if the leak is not repaired within 15 calendar days after discovery of the leak;
- (6) The expected date of successful repair of the leak if the leak is not repaired within 15 days; and
- (7) The date of successful repair of the leak.

**3. Specific Reporting Requirements:**

§63.8075. Reporting requirements. The permittee shall submit each report in Table 9 to subpart HHHHH that applies to the source, including a notification of compliance status report containing the information specified in §63.8075(d) and semi-annual compliance reports containing the information specified in §63.8075(e).”



## SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

### Group Requirements; 40 CFR 63 Subpart JJJJ

**Emission Points: 12, 37, 44, 45, 52, 55, 56, 58, 61, 62, 82, 83, 94 and 98.**

**Description:** These points represent the “affected source” pursuant to 40 CFR 63.3300, which indicates that the affected source is the collection of all web coating lines at the facility. This includes web coating lines engaged in the coating of metal webs that are used in flexible packaging, and web coating lines engaged in the coating of fabric substrates for use in pressure sensitive tape and abrasive materials.

### **APPLICABLE REGULATIONS:**

40 CFR 63: Subpart JJJJ, National Emission Standard for Hazardous Air Pollutants: Paper and Other Web Coating.

### **Primary Operating Scenario:**

Monthly average organic HAP content of all coating materials as-applied is less than the mass percent limit of 4 percent (§63.3320(b)(2)).

#### **1. Operating Limitations:**

Usage rate of adhesive and solvents containing HAP shall be restricted so as not to exceed the emission limitations listed in Section B(2).

#### **2. Emission Limitations:**

§63.3320(b)(2). The permittee shall limit organic HAP emissions to no more than 4 percent of the mass of coating materials applied for each month at existing affected sources. The affected source subject to this subpart is the collection of all web coating lines at the source (§63.3300).

### **Compliance demonstration method:**

§63.3370(c)(3) *Monthly average organic HAP content of all coating materials as-applied is less than the mass percent limit (§63.3320(b)(2)).* The permittee shall demonstrate that the monthly average as-applied organic HAP content of all coating materials applied at an existing affected source is less than 0.04 kg organic HAP per kg of coating material applied as determined by Equation 4 of this section:

$$H_L = \frac{\sum_{i=1}^p C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} - M_{\text{ret}}}{\sum_{i=1}^p M_i + \sum_{j=1}^q M_{ij}} \quad \text{Eq. 4}$$

$H_L$  = Monthly average, as-applied, organic HAP content of all coating materials applied, expressed as kg organic HAP per kg of coating material applied, kg/kg.

$p$  = Number of different coating materials applied in a month.

$C_{hi}$  = Organic HAP content of coating material,  $i$ , as-purchased, expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material,  $i$ , applied in a month, kg.

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

q = Number of different materials added to the coating material.

$C_{hij}$  = Organic HAP content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, kg/kg.

$M_{ij}$  = Mass of material, j, added to as-purchased coating material, i, in a month, kg.

$M_{vret}$  = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in §63.3370.

**3. Testing Requirements:**

§63.3360(a)(1). Pursuant to §63.3360(c)(3), the permittee may use formulation data to determine the organic HAP mass fraction of a coating material. Formulation data may be provided to the owner or operator by the manufacturer of the material. In the event of an inconsistency between Method 311 (appendix A of 40 CFR Part 63) test data and a facility's formulation data, and the Method 311 test value is higher, the Method 311 data will govern. Formulation data may be used provided that the information represents all organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used.

**4. Monitoring Requirements:** See Record Keeping Requirements

**5. Specific Recordkeeping Requirements:**

§63.3410. The permittee shall maintain the records specified in §63.3410(a)(1)(iii) of this section on a monthly basis in accordance with the requirements of §63.10(b)(1), specifically organic HAP content data for the purpose of demonstrating compliance with the emission standards under §63.3320(b)(2) in accordance with the requirements of §63.3360(c).

**6. Specific Reporting Requirements:**

§63.3400. The permittee shall submit semi-annual compliance reports, as specified in §63.3400(c)(1) and (2), detailing any exceedance of the standard under §63.3320(b)(2), source-wide emission limit for organic HAP not more than 4 percent of the mass of coating materials applied for each month.

**7. Specific Control Equipment Operating Conditions:** None

**8. Alternate Operating Scenarios:**

Covalence has chosen §63.3320(b)(1) as its primary compliance scenario and §63.3320(b)(2) as an alternate operating scenario. The procedures in §63.3370, however, allow for the compliance demonstration method to be changed on a monthly basis and Covalence may utilize one of the other alternative compliance demonstration options in the future and will record any change in compliance demonstration options in their monthly recordkeeping logs as appropriate. See Section H

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****Emission Point 66 (66) Six Ethylene Oxide Sterilizers Controlled with a Catalytic Oxidizer****Description:**

The ethylene oxide sterilizers are designated A through F

The control equipment is a 4000 SCFM EtO-Abator Model 6262 P4528 catalytic oxidizer manufactured by Donaldson Co., Inc.

The unit uses a heat recovery system and steam coils (maximum rated steam consumption of 2,000 lbs/hr) to preheat air and the sterilizer EtO polluted stream.

Once at or above the minimum reaction temperature, the catalyst initiates an exothermic reaction which converts EtO into carbon dioxide and water vapor.

The manufacturer guarantees that 99% of the EtO entering the oxidizer will be destroyed as long as the EtO concentration entering the oxidizer doesn't exceed 3,000 ppmv (1.3 lbs/min).

Installation dates: Sterilizers A through E: August 1988

Sterilizer F: April 1999.

**APPLICABLE REGULATIONS:**

401 KAR 63:360, which incorporates by reference 40 CFR 63, Subpart O, Ethylene oxide (EtO) emissions standards for sterilization facilities applicable to all sterilization sources with standards that apply to sterilization chamber vents at sources that use >1 ton and <10 tons of EtO, and sterilization chamber vents and aeration room vents at sources that use >10 tons of EtO (Alternate Operating Scenario for the permittee) [59 FR 62589, Dec. 6, 1994, as amended at 66 FR 55583, Nov. 2, 2001]

**1. Operating Limitations:**

§63.363(b)(3) and (4) requires the following operating limit and choice of work practices for sterilization chamber vents for continuous demonstration of compliance with Emission Limit B.2.a.:

- a. §63.363(b)(3). For facilities with catalytic oxidizers or thermal oxidizers, the operating limit consists of the recommended minimum oxidation temperature provided by the oxidation unit manufacturer for an operating limit.
- b. §63.363(b)(4). Facilities with catalytic oxidizers shall comply with one of the following work practices:
  - (i) Once per year after the initial compliance test, conduct a performance test during routine operations, i.e., with product in the chamber using the procedures described in §63.365(b) or (d) as appropriate. If the percent efficiency is less than 99 percent, restore the catalyst as soon as practicable but no later than 180 days after conducting the performance test; or
  - (ii) Once per year after the initial compliance test, analyze ethylene oxide concentration data from §63.364(e) or a continuous emission monitoring system (CEMS) and restore the catalyst as soon as practicable but no later than 180 days after data analysis; or,

## **SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- (iii) Every 5 years, beginning 5 years after the initial compliance test (or by December 6, 2002, whichever is later), replace the catalyst bed with new catalyst material.
- c. §63.363(b)(f). The permittee must demonstrate continuous compliance with each operating limit and work practice standard required under this section, except during periods of startup, shutdown, and malfunction, according to the methods specified in §63.364.
- d. §63.362 requires no standards for aeration room vents unless the source uses 10 tons or more of EtO in a consecutive 12 month period (see Alternate Operating Scenario if source uses 10 tons or more).
- e. The following conditions are required to continuously demonstrate compliance with Emission Limit B.2.a.
  - i. The catalytic oxidizer shall be operated at all times when ethylene oxide is released from the process.
  - ii. Except when ethylene oxide is not being processed, the inlet temperature to the catalytic oxidizer shall always be greater than or equal to the recommended minimum oxidation temperature provided by the oxidation unit manufacturer.

### **2. Emission Limitations:**

The emission limits of 40 CFR 63, Subpart O are as follows:

<b>Existing and New Sources</b>			
<b>Source Size (EtO Use)</b>	<b>Sterilization Chamber Vent</b>	<b>Aeration Room Vent</b>	<b>Chamber Exhaust Vent</b>
Less than 1 ton	No controls; minimal recordkeeping requirements apply (40 CFR 63.367(c))		
1 ton or more - less than 10 ton	99% emission reduction (40 CFR 63.362(c))	No control	No control
10 tons and more	99% emission reduction (40 CFR 63.362(c))	1 ppm maximum outlet concentration or 99% emission reduction (40 CFR 63.362(a))	No control

## SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- a. 40 CFR 63.362(c) requires the following standard for each sterilization chamber vent:  
Ethylene oxide emissions to the atmosphere shall be reduced by at least 99 percent.

**Compliance Demonstration Method:** See testing requirements below.

### 3. **Testing Requirements:** §63.365

*Initial performance testing.* An initial test to determine ethylene oxide emissions from the sterilization chamber vents was performed in May, 2000, as required by §63.363(a)(1). The permittee complied with the performance testing requirements in §63.7 of subpart A of this part 63, according to the applicability in Table 1 of §63.360, and in §63.365. The permittee conducted the performance test using the procedures described in §63.365(b). To determine compliance with Emission Limit B.2.a., the permittee repeated the procedures contained in §63.365 (b)(1) (i) through (v), three times. The permittee demonstrated compliance with Emission Limit B.2.a.

*Continuous performance testing.* Since the permittee has chosen to comply with §63.363(b)(4)(iii), no continuous performance testing is required. If the permittee decides to comply with §63.363(b)(4)(i), the permittee shall conduct a performance test once per year during routine operations, i.e., with product in the chamber using the procedures described in §63.365(b). To determine compliance with Emission Limit B.2.a., the permittee shall repeat the procedures contained in §63.365(b)(1) (i) through (v), three times.

- (i) The amount of ethylene oxide loaded into the sterilizer ( $W_c$ ) shall be determined by either:
- (A) Weighing the ethylene oxide gas cylinder(s) used to charge the sterilizer before and after charging. Record these weights to the nearest 0.1 lb. Multiply the total mass of gas charged by the weight percent ethylene oxide present in the gas.
  - (B) Installing calibrated rotameters at the sterilizer inlet and measuring flow rate and duration of sterilizer charge. Use the following equation to convert flow rate to weight of ethylene oxide:

$$W_c = F_v \times t \times \%EO_v \times \left( \frac{MW}{SV} \right)$$

where:

$W_c$  = weight of ethylene oxide charged, lb.

$F_v$  = volumetric flow rate, scf per minute (scfm) corrected to 68 °F and 1 atmosphere of pressure (atm); the flowrate must be constant during time (t)

t = time, min

$\%EO_v$  = volume fraction ethylene oxide

SV = standard volume, 385.32 scf per mole (scf/mole)=359 scf/mole ideal gas law constant corrected to 68 °F and 1 atm.

MW = molecular weight of ethylene oxide, 44.05 pounds per pound-mole (lb/lb-mole), or

## SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- (C) Calculating the mass based on the conditions of the chamber immediately after it has been charged using the following equation:

$$W_c = \frac{MW \times \%EO_v \times P \times V}{R \times T}$$

where:

P = chamber pressure, psia

V = chamber volume, ft<sup>3</sup>

R = gas constant, 10.73 psia·ft<sup>3</sup> /mole°R

T = temperature, °R

Note: If the ethylene oxide concentration is in weight percent, use the following equation to calculate mole fraction:

$$\%EO_v = \frac{W_{EO}}{W_{EO} + \left( W_x \times \frac{MW}{MW_x} \right)}$$

where:

W<sub>EO</sub> = weight percent of ethylene oxide

W<sub>x</sub> = weight percent of compound in the balance of the mixture

MW<sub>x</sub> = molecular weight of compound in the balance gas mixture

- (ii) The residual mass of ethylene oxide in the sterilizer shall be determined by recording the chamber temperature, pressure, and volume after the completion of the first evacuation and using the following equation:

$$W_r = \frac{MW \times \%EO_v \times P \times V}{R \times T}$$

where:

W<sub>r</sub> = weight of ethylene oxide remaining in chamber (after the first evacuation), in lb

- (iii) Calculate the total mass of ethylene oxide at the inlet to the control device (W<sub>i</sub>) by subtracting the residual mass (W<sub>r</sub>) calculated in paragraph (b)(1)(ii) of this section from the charged weight (W<sub>c</sub>) calculated in paragraph (b)(1)(i) of this section.
- (iv) The mass of ethylene oxide emitted from the control device outlet (W<sub>o</sub>) shall be calculated by continuously monitoring the flow rate and concentration using the following procedure.
- (A) Measure the flow rate through the control device exhaust continuously during the first evacuation using the procedure found in 40 CFR part 60, appendix A, Test Methods 2, 2A, 2C, or 2D, as appropriate. (Method 2D (using orifice plates or Rootstyle meters) is recommended for measuring flow rates from sterilizer control devices.) Record the flow rate at 1-minute

## SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

intervals throughout the test cycle, taking the first reading within 15 seconds after time zero. Time zero is defined as the moment when the pressure in the sterilizer is released. Correct the flow to standard conditions 68 °F and 1 atm and determine the flow rate for the run as outlined in the test methods listed in paragraph (b) of this section.

- (B) Test Method 18 or 25A, 40 CFR part 60, appendix A, shall be used to measure the concentration of ethylene oxide.
- (1) Prepare a graph of volumetric flow rate versus time corresponding to the period of the run cycle. Integrate the area under the curve to determine the volume.
  - (2) Calculate the mass of ethylene oxide by using the following equation:

$$W_o = C \times V \times \frac{MW}{SV} \times \frac{1}{10^6}$$

Where:

W<sub>o</sub> = Mass of ethylene oxide, lb

C = concentration of ethylene oxide in ppmv

V = volume of gas exiting the control device corrected to standard conditions, ft<sup>3</sup>

1/10<sup>6</sup> = correction factor L<sub>EO</sub>/10<sup>6</sup> L<sub>TOTAL GAS</sub> (ft<sup>3</sup><sub>EO</sub>/10<sup>6</sup> ft<sup>3</sup><sub>TOTAL GAS</sub>)

- (3) Calculate the efficiency by the equation in paragraph (b)(1)(v) of this section.

- (v) Determine control device efficiency (% Eff) using the following equation:

$$\% \text{ Eff} = \frac{W_i - W_o}{W_i} \times 100$$

where:

% Eff = percent efficiency

W<sub>i</sub> = mass flow rate into the control device

W<sub>o</sub> = mass flow rate out of the control device

- (vi) Repeat the procedures in paragraphs (b)(1) (i) through (v) of this section three times. The arithmetic average percent efficiency of the three runs shall determine the overall efficiency of the control device.

Note: If the tested outlet concentration from the oxidizer is below the detection limit for ethylene oxide and the inlet ethylene oxide concentration is near or below 50 ppmv, the permittee shall assume the oxidizer is meeting Emission Limit B.2.a.

**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- b. Ethylene oxide emissions from the aeration room vents requires no testing as long as the source uses less than 10 tons of ethylene oxide during any consecutive 12 month period after December 6, 1996 (see Alternate Operating Scenario part of this Section for requirements if the source uses 10 tons or more).

**4. Monitoring Requirements: §63.364**

§63.364(c). To demonstrate compliance with Operating Limits B.1.d. and B.1.e, the permittee shall do the following:

- a. If complying with §63.363(b) or (c) through the use of catalytic oxidation or thermal oxidation, the permittee shall either comply with §63.364(e) or continuously monitor and record the oxidation temperature at the outlet to the catalyst bed or at the exhaust point from the thermal combustion chamber using the temperature monitor described in §63.363(c)(4). Monitoring is required only when the oxidation unit is operated. From 15-minute or shorter period temperature values, a data acquisition system for the temperature monitor shall compute and record a daily average oxidation temperature. Strip chart data shall be converted to record a daily average oxidation temperature each day any instantaneous temperature recording falls below the minimum temperature.
- b. §63.364(c)(4). If using this compliance method, the permittee shall install, calibrate, operate, and maintain a temperature monitor accurate to within  $\pm 10$  °F to measure the oxidation temperature. The permittee shall verify the accuracy of the temperature monitor twice each calendar year with a reference temperature monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent temperature measurement device dedicated for this purpose). During accuracy checking, the probe of the reference device shall be at the same location as that of the temperature monitor being tested. As an alternative, the accuracy temperature monitor may be verified in a calibrated oven (traceable to NIST standards).
- c. §63.364(e). If using this compliance method, the permittee shall measure and record once per hour the ethylene oxide concentration at the outlet to the atmosphere after any control device according to the procedures specified in §63.365(c)(1). The permittee shall compute and record a 24-hour average daily. The owner or operator will install, calibrate, operate, and maintain a monitor consistent with the requirements of performance specification (PS) 8 or 9 in 40 CFR part 60, appendix B, to measure ethylene oxide. The daily calibration requirements of section 7.2 of PS 9 or section 2.3 of PS 8 are required only on days when ethylene oxide emissions are vented to the control device.

**5. Recordkeeping Requirements: §63.367**

- a. The permittee shall comply with the recordkeeping requirements in §63.10(b) and (c), as required by §63.367(a), according to the applicability in Table 1 of §63.360, and in §63.367. All records required to be maintained by this subpart or a subpart referenced by this subpart shall be maintained in such a manner that they can be readily accessed and are suitable for inspection. The most recent 2 years of records shall be retained



**SECTION B -EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

onsite or shall be accessible to an inspector while onsite. The records of the preceding 3 years, where required, may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, computer disk, magnetic tape, or microfiche.

- b. The permittee shall maintain records, as required by §63.367(b), of ethylene oxide use on a 12 month rolling average basis to demonstrate that the source uses less than 10 tons of ethylene oxide during any consecutive 12 month period unless conditions listed in the Alternate Operating Scenario are required and observed.
- c. All monitoring required by Monitoring Requirements B.4.b. or B.4.c. shall be recorded, as required by §63.364(c).
- d. If complying with §63.363(b)(4), the permittee shall maintain records of the compliance test, data analysis, and if catalyst is replaced, proof of replacement.

**6. Reporting Requirements: §63.366**

All applicable reporting requirements from §63.366 shall be fulfilled. This shall include excess emission reports and summary reports, as required in 40 CFR 63.10(e)(3).

**7. Alternate Operating Scenario: See Section H**

**SECTION C - INSIGNIFICANT ACTIVITIES**

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary.

<u>Emission Point #</u>	<u>Description</u>	<u>Generally Applicable Regulation</u>
1.	Polyken Indirect heat exchangers (2) 3.38 MMBtu/hr each	401 KAR 59:015 4(1)(a) Particulate matter 401 KAR 59:015 5(1)(a) Sulfur dioxide 401 KAR 59:015 6(1) Nitrogen oxide
2.	Polyken Indirect heat exchangers (2) 1.66 MMBtu/hr each	401 KAR 59:015 4(1)(a) Particulate matter 401 KAR 59:015 5(1)(a) Sulfur dioxide 401 KAR 59:015 6(1) Nitrogen oxide
3.	Adhesive 60" mill and resin grinder 1,637 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
4.	Adhesive two 60" mills 2,991 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
5.	Adhesive four warming mills 4,210 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
6.	Polyken 9D banbury clay system 12,000 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
7.	Polyken 84" farrell mill 2,696 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
8.	Polyken 84" farrell mill 2,696 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
9.	Polyken 120" farrell mill 5,248 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
10.	Polyken 3D banbury clay system 17,156 tons per year	401 KAR 61:020 3(1)(b) Particulate matter

**SECTION C - INSIGNIFICANT ACTIVITIES (CONTINUED)**

11.	100" farrell mill 14,801 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
12.	Polyken 11D banbury 6,200 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
13.	100" farrell mill 29,602 tons per year	401 KAR 61:020 3 Particulate matter
14.	Polyken reclaim mill 5,687 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
15.	Polyken clay unloading system 20,470 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
16.	Polyken 84" farrell mill 8,064 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
17.	Adhesive 2 ethylhexyl acrylate tank 8,000 gals capacity 150,000 gals/yr throughput	None
18.	Adhesive vinyl acetate tank 8,000 gals capacity 75,000 gals/yr throughput	None
19.	Adhesive n-butyl acrylate tank 15,000 gals capacity 42,000 gals/yr throughput	None
20.	Adhesive isopropanol tank 15,000 gals capacity 400,000 gals/yr throughput	None
21.	Adhesive heptane tank 15,000 gals capacity 65,000 gals/yr throughput	None
22.	Adhesive toluene tank 15,000 gals capacity 175,000 gals/yr throughput	None
23.	Adhesive heptane tank 15,000 gals capacity 650,000 gals/yr throughput	None

**SECTION C - INSIGNIFICANT ACTIVITIES (CONTINUED)**

24.	Hyprene L-500 oil tank 15,000 gals capacity 20,000 gals/yr throughput	None
25.	Adhesive naptha tank 15,000 gals capacity 71,000 gals/yr throughput	None
26.	Adhesive methanol tank 1,600 gal capacity 25,000 gals/yr throughput	None
27.	Compound hood, economixer 12,000 lb/hr	401 KAR 61:020 3(1)(b) Particulate matter
28.	84" farrel mill 1,246 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
29.	84" farrel mill 10,500 ton per year	401 KAR 61:020 3(1)(b) Particulate matter
30.	120" farrel mill 5,248 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
31.	Coverlet vacuum process 230 tons per year	401 KAR 61:020 3(1)(b) Particulate matter
32.	Emergency generator 20 KW	Exempt
33.	Ground water stripping 1,450 lb/year	Exempt
34.	Bulk Calcium Carbonate System	401 KAR 59: 010 3(1)(b) and(2) Particulate matter

**SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS**

1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.
2. **Compliance Demonstration Method:**  
Compliance shall be demonstrated by a material balance method consisting of record keeping of coatings and solvent utilized, VOC content and resulting emissions, which will be summarized on a monthly basis. The equation for monthly record keeping is as follows:

$$P_i = \sum (i=1..j) U (\text{gal /month}) \times D_i (\text{lbs VOC /gal}) / 2000$$

Where  $P_i$  equals current monthly VOC emissions in tons and the summation of VOC emissions is over the number of coatings  $j$  mixed or processed on each affected facility  $i$  during the month. Here  $U$  is the volume (gal/month) used and  $D_i$  is the corresponding VOC content (lbs/gal) for each respective coating.

The 12-month rolling average of VOC inputs is calculated as follows:  $P_a = P_i (\text{current month}) + P_i (\text{preceding 11 months})$  Where  $P_a$  equals VOC inputs over the last 12 month period.

## **SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS**

Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

**SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS**

1. Pursuant to Section 1b (IV)1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
  - a. Date, place as defined in this permit, and time of sampling or measurements;
  - b. Analyses performance dates;
  - c. Company or entity that performed analyses;
  - d. Analytical techniques or methods used;
  - e. Analyses results; and
  - f. Operating conditions during time of sampling or measurement.
2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b(IV) 2 and 1a(8) of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
3. In accordance with the requirements of 401 KAR 52:020 Section 3(1)h the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
  - a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
  - b. To access and copy any records required by the permit;
  - c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.
4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
5. Summary reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Section 1b (V )1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

## **SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)**

6. The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported to the Technical Services Branch in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.
7. In accordance with the provisions of 401 KAR 50:055, Section 1 the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
  - a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
  - b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.
8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7. above) to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report required by Section F.6 [Section 1b (V) 3, 4. of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
  - a. Identification of the term or condition;
  - b. Compliance status of each term or condition of the permit;
  - c. Whether compliance was continuous or intermittent;
  - d. The method used for determining the compliance status for the source, currently and over the reporting period.
  - e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.



**SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)**

- f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

**Division for Air Quality  
Bowling Green Regional Office  
1508 Westen Avenue  
Bowling Green, KY 42104**

**U.S. EPA Region 4  
Air Enforcement Branch  
Atlanta Federal Center  
61 Forsyth St.  
Atlanta, GA 30303-8960**

**Division for Air Quality  
Central Files  
803 Schenkel Lane  
Frankfort, KY 40601**

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within thirty (30) days of the date the KYEIS emission survey is mailed to the permittee.
11. Results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within forty-five days or sooner if required by an applicable standard, after the completion of the fieldwork.

**SECTION G - GENERAL PROVISIONS****(a) General Compliance Requirements**

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 and of the Clean Air Act and is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a, 3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020 Section 26].
2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a, 6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
3. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
  - a. If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
  - b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
  - c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;

Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the conditions of this permit [Section 1a, 7,8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].

**SECTION G - GENERAL PROVISIONS (CONTINUED)**

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a, 14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a, 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
8. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens of the United States [Section 1a, 15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a, 10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3)(b)].
11. This permit does not convey property rights or exclusive privileges [Section 1a, 9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Environmental and Public Protection or any other federal, state, or local agency.
13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3)(d)].
14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3)(a)].
15. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic Minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.

**SECTION G - GENERAL PROVISIONS (CONTINUED)**

16. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of issuance. Compliance with the conditions of a permit shall be considered compliance with:
  - a. Applicable requirements that are included and specifically identified in the permit and
  - b. Non-applicable requirements expressly identified in this permit.
17. Pursuant to 401 KAR 50:045, Section 2, a source required to conduct a performance test shall submit a completed Compliance Test Protocol form, DEP form 6028, or a test protocol a source has developed for submission to other regulatory agencies, in a format approved by the cabinet, to the Division's Frankfort Central Office a minimum of sixty (60) days prior to the scheduled test date. Pursuant to 401 KAR 50:045, Section 7, the Division shall be notified of the actual test date at least Thirty (30) days prior to the test.

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].
2. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020 Section 8(2)].

(c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).
2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

(d) Construction, Start-Up, and Initial Compliance Demonstration Requirements

None

**SECTION G - GENERAL PROVISIONS (CONTINUED)****(e) Acid Rain Program Requirements**

If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

**(f) Emergency Provisions**

1. Pursuant to 401 KAR 52:020 Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
  - a. An emergency occurred and the permittee can identify the cause of the emergency;
  - b. The permitted facility was at the time being properly operated;
  - c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
  - d. Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.01-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
  - e. This requirement does not relieve the source of other local, state or federal notification requirements.
2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].
3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

**(g) Risk Management Provisions**

1. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

RMP Reporting Center  
P.O. Box 1515  
Lanham-Seabrook, MD 20703-1515.

## SECTION G - GENERAL PROVISIONS (CONTINUED)

2. If requested, submit additional relevant information to the Division or the U.S. EPA.
- (h) Ozone depleting substances
  1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
    - a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
    - b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
    - c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
    - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166
    - e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
    - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.
  2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.

**SECTION H - ALTERNATE OPERATING SCENARIOS****Group requirements; 40 CFR 63 Subpart JJJJ**

**Emission Points: 12, 37 44, 45, 52, 55, 56, 58, 61, 62, 82, 83, 94, 97 and 98.**

**Description:** These points represent the “affected source” pursuant to 40 CFR 63.3300, which indicates that the affected source is the collection of all web coating lines at the facility. This includes web coating lines engaged in the coating of metal webs that are used in flexible packaging, and web coating lines engaged in the coating of fabric substrates for use in pressure sensitive tape and abrasive materials.

**APPLICABLE REGULATIONS:**

40 CFR 63: Subpart JJJJ, National Emission Standard for Hazardous Air Pollutants: Paper and Other Web Coating.

**Alternate Operating Scenario:**

Use of multiple capture and control devices including intermittently controlled work stations and uncontrolled lines to reduce emissions to no more than allowable limit of 5 percent of the organic HAP applied for each month (95% reduction)(§63.3320(b)(1)).

**1. Operating Limitations:**

Usage rate of adhesive and solvents containing HAP shall be restricted so as not to exceed the emission limitations listed in Section B(B).

**2. Emission Limitations:**

§63.3320(b)(1). Organic HAP emissions shall not be more than 5 percent of the organic HAP applied for each month (95% reduction). The affected source subject to this subpart is the collection of all web coating lines at the source (§63.3300).

**Compliance demonstration method:**

§63.3370(e). *Capture and control to reduce emissions to no more than allowable limit (§63.3320(b)(1)).* The permittee shall follow the procedures set out in §63.3370(e)(2) determine compliance with §63.3320(b)(1) according to §63.3370(n) if using a capture system and a thermal oxidizer.

§63.3370(n). *Combinations of capture and control.* The permittee operates more than one capture system, more than one control device, one or more never-controlled work stations, or one or more intermittently-controlled work stations. Therefore, the permittee shall calculate organic HAP emissions according to the procedures in paragraphs (n)(3) and (4) of this section, and use the calculation procedures specified in paragraph (n)(5) of this section to convert the monitoring and other data into units of the selected control option in paragraphs (e) through (h) of this section. The procedures specified in paragraph (n)(6) of this section shall be used to demonstrate compliance.

§63.3370(n)(3)(iii)(B). Determine the organic HAP emissions for those web coating lines served by each capture system delivering emissions to that oxidizer in accordance with paragraphs (k)(1)(i) through (iii), (v), and (o) of this section, if the web coating lines served by that capture and control system have one or more never-controlled or intermittently-controlled work stations.

**SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)**

§63.3370(o)(1)(1). The permittee shall determine the sum of the mass of all coating materials as-applied on intermittently-controlled work stations operating in bypass mode and the mass of all coating materials as-applied on never-controlled work stations during the month.

§63.3370(o)(1)(2). The permittee shall determine the sum of the mass of all coating materials as-applied on intermittently-controlled work stations operating in a controlled mode and the mass of all coating materials applied on always-controlled work stations during the month.

§63.3370(o)(4) *Performance test to determine capture efficiency and control device efficiency.* For each web coating line or group of web coating lines for which the permittee uses the provisions of paragraph §63.3370(n)(3)(iii)(B), the permittee shall calculate the organic HAP emitted during the month using Equation 15 of this section:

$$H_e = \left[ \sum_{i=1}^p M_{ci} C_{ahi} \right] \left[ 1 - \frac{R}{100} \right] + \left[ \sum_{i=1}^p M_{Bi} C_{ahi} \right] - M_{vret} \quad \text{Eq. 15}$$

Where:

$H_e$  = Total monthly organic HAP emitted, kg.

$p$  = Number of different coating materials applied in a month.

$M_{ci}$  = Sum of the mass of coating material,  $i$ , as-applied on intermittently-controlled work stations operating in controlled mode and the mass of coating material,  $i$ , as-applied on always-controlled work stations, in a month, kg.

$C_{ahi}$  = Monthly average, as-applied, organic HAP content of coating material,  $i$ , expressed as a mass fraction, kg/kg.

$R$  = Overall organic HAP control efficiency, percent.

$M_{Bi}$  = Sum of the mass of coating material,  $i$ , as-applied on intermittently-controlled work stations operating in bypass mode and the mass of coating material,  $i$ , as-applied on never-controlled work stations, in a month, kg.

$C_{ahi}$  = Monthly average, as-applied, organic HAP content of coating material,  $i$ , expressed as a mass fraction, kg/kg.

$R$  = Overall organic HAP control efficiency, percent.

$M_{Bi}$  = Sum of the mass of coating material,  $i$ , as-applied on intermittently-controlled work stations operating in bypass mode and the mass of coating material,  $i$ , as-applied on never-controlled work stations, in a month, kg.

$C_{ahi}$  = Monthly average, as-applied, organic HAP content of coating material,  $i$ , expressed as a mass fraction, kg/kg.

$M_{vret}$  = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in this section.



**SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)**

§63.3370(n)(4) *Uncontrolled coating lines.* Since the permittee owns or operates one or more uncontrolled web coating lines, the organic HAP applied on those web coating lines must be determined using Equation 6 of this section. The organic HAP emitted from an uncontrolled web coating line is equal to the organic HAP applied on that web coating line.

$$H_m = \sum_{i=1}^p C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} - M_{vret} \quad \text{Eq. 6}$$

$H_m$  = Total monthly organic HAP applied, kg.

$p$  = Number of different coating materials applied in a month.

$C_{hi}$  = Organic HAP content of coating material,  $i$ , as-purchased, expressed as a mass fraction, kg/kg.

$M_i$  = Mass of as-purchased coating material,  $i$ , applied in a month, kg.

$q$  = Number of different materials added to the coating material.

$C_{hij}$  = Organic HAP content of material,  $j$ , added to as-purchased coating material,  $i$ , expressed as a mass fraction, kg/kg.

$M_{ij}$  = Mass of material,  $j$ , added to as-purchased coating material,  $i$ , in a month, kg.

$M_{vret}$  = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in §63.3370.

§63.3370(n)(5)(i) *Organic HAP emitted.* The permittee shall calculate the organic HAP emissions for the affected source for the month by summing all organic HAP emissions calculated according to paragraphs (n)(1), (2)(ii), (3)(iii), and (4) of this section.

§63.3370(n)(6)(iv). The permittee shall determine that the total mass of organic HAP emitted by the affected source was not more than 5 percent of the total mass of organic HAP applied for the month at an existing affected source. The total mass of organic HAP applied by the affected source in the month must be determined using Equation 6 of this section.

**3. Testing Requirements:**

§63.3360 (a)(1). Pursuant to §63.3360 (c)(3), the permittee may use formulation data to determine the organic HAP mass fraction of a coating material. Formulation data may be provided to the owner or operator by the manufacturer of the material. In the event of an inconsistency between Method 311 (appendix A of 40 CFR Part 63) test data and a facility's formulation data, and the Method 311 test value is higher, the Method 311 data will govern. Formulation data may be used provided that the information represents all organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used.

§63.3360 (a)(2). If using a capture and control system, conduct a performance test for each capture and control system to determine: the destruction or removal efficiency of each control device other than solvent recovery according to §63.3360(e), and the capture

**SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)**

efficiency of each capture system according to §63.3360(f). The permittee has completed capture and control testing on the PTE enclosures and thermal oxidizers installed on EP 12(3) and EP 82(5).

**4. Monitoring Requirements:**

§63.3350(c). Bypass and coating use monitoring. For web coating lines with intermittently-controlled work stations, the permittee shall monitor bypasses of the control device and the mass of each coating material applied at the work station during any such bypass. If using a control device for complying with the requirements of this subpart, the permittee must demonstrate that any coating material applied on a never-controlled work station or an intermittently-controlled work station operated in bypass mode is allowed in the compliance demonstration according to §63.3370(n) and (o). The bypass monitoring must be conducted using at least one of the procedures in §63.3350(c)(1) through (4) for each work station and associated dryer.

§63.3350(e). For the thermal oxidizer control devices used to comply with the emission standards in §63.3320, the permittee must install, operate, and maintain each CPMS specified in paragraphs §63.3350 (e)(9) and (10) and (f) according to the requirements in paragraphs §63.3350 (e)(1) through (8). The permittee must install, operate, and maintain each CPMS specified in paragraph (c) of this section according to paragraphs §63.3350 (e)(5) through (7).

§63.3350(e)(9). *Oxidizer*. If the permittee are using an oxidizer to comply with the emission standards, the permittee must comply with paragraphs (e)(9)(i) and (ii) of this section.

- (i) Install, calibrate, maintain, and operate temperature monitoring equipment according to the manufacturer's specifications. The calibration of the chart recorder, data logger, or temperature indicator must be verified every 3 months or the chart recorder, data logger, or temperature indicator must be replaced. The equipment must be replaced whether the permittee choose not to perform the calibration or the equipment cannot be calibrated properly.
- (ii) Install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device must have an accuracy of  $\pm 1$  percent of the temperature being monitored in degrees Celsius, or  $\pm 1$  °Celsius, whichever is greater. The thermocouple or temperature sensor must be installed in the combustion chamber at a location in the combustion zone.

§63.3350(f). For the capture systems, the permittee shall develop and maintain a site- specific monitoring plan containing the information specified in paragraphs §63.3350 (f)(1) and (2),

§63.3350(f), *Capture system monitoring*: The permittee shall develop and maintain a site-specific monitoring plan containing the information specified in paragraphs §63.3350 (f)(1) and (2). The capture system must be monitored in accordance with paragraph §63.3350 (f)(3). The monitoring plan must be available for inspection by the permitting authority upon request.

**SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)**

- (1) The monitoring plan must:
  - (i) Identify the operating parameter to be monitored to ensure that the capture efficiency determined during the initial compliance test is maintained; and
  - (ii) Explain why this parameter is appropriate for demonstrating ongoing compliance; and
  - (iii) Identify the specific monitoring procedures.
- (2) The monitoring plan must specify the operating parameter value or range of values that demonstrate compliance with the emission standards in §63.3320. The specified operating parameter value or range of values must represent the conditions present when the capture system is being properly operated and maintained.
- (3) All capture system monitoring must be conducted in accordance with the plan.
- (4) Any deviation from the operating parameter value or range of values which are monitored according to the plan will be considered a deviation from the operating limit.
- (5) The capture system monitoring plan must be reviewed and updated at least annually.

**5. Specific Recordkeeping Requirements:**

§63.3410. The permittee shall maintain the records specified in §63.3410(a)(1) on a monthly basis in accordance with the requirements of §63.10(b)(1) and for the purpose of demonstrating compliance with the emission standards under §63.3320(b)(1):

(1) Records specified in §63.10(b)(2) of all measurements needed to demonstrate compliance with Subpart JJJJ, including:

(ii) Control device and capture system operating parameter data in accordance with the requirements of §63.3350(c), (e), and (f);

(iii) Organic HAP content data for the purpose of demonstrating compliance in accordance with the requirements of §63.3360(c);

(v) Overall control efficiency determination using capture efficiency and control device destruction or removal efficiency test results in accordance with the requirements of §63.3360(e) and (f).

**6. Specific Reporting Requirements:**

§63.3400. The permittee must submit a semiannual compliance report according to the compliance report dates contained in (c)(1) and containing the information in paragraphs (c)(2)(i) through (vi) of §63.3400, including any exceedances of the standard § 63.3320(b)(1), no more than 5 percent of the organic HAP applied for each month (95 percent reduction)

§63.3400(d). The permittee submitted a Notification of Performance Tests as specified in §§63.7 and 63.9(e) for the performance test of the PTEs and thermal oxidizers on EP12(3) and EP82(5). This notification and the site-specific test plan required under §63.7(c)(2) identified the operating parameters to be monitored to ensure that the capture efficiency of

## **SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)**

the capture system and the control efficiency of the control device determined during the performance test were maintained.

§63.3400(g). The permittee must submit startup, shutdown, and malfunction reports as specified in §63.10(d)(5), except that the provisions in subpart A of this part pertaining to startups, shutdowns, and malfunctions do not apply unless a control device is used to comply with Subpart JJJJ.

**SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)****Emission Point 66 (66) Six Ethylene Oxide Sterilizers Controlled with a Catalytic Oxidizer****Description:**

The ethylene oxide sterilizers are designated A through F

The control equipment is a 4000 SCFM EtO-Abator Model 6262 P4528 catalytic oxidizer manufactured by Donaldson Co., Inc.

The unit uses a heat recovery system and steam coils (maximum rated steam consumption of 2,000 lbs/hr) to preheat air and the sterilizer EtO polluted stream.

Once at or above the minimum reaction temperature, the catalyst initiates an exothermic reaction which converts EtO into carbon dioxide and water vapor.

The manufacturer guarantees that 99% of the EtO entering the oxidizer will be destroyed as long as the EtO concentration entering the oxidizer doesn't exceed 3,000 ppmv (1.3 lbs/min).

Installation dates: Sterilizers A through E: August 1988

Sterilizer F: April 1999.

**APPLICABLE REGULATIONS:**

401 KAR 63:360, which incorporates by reference 40 CFR 63, Subpart O, Ethylene oxide (EtO) emissions standards for sterilization facilities applicable to all sterilization sources with standards that apply to sterilization chamber vents at sources that use >1 ton and <10 tons of EtO, and sterilization chamber vents and aeration room vents at sources that use >10 tons of EtO (Alternate Operating Scenario for the permittee)[59 FR 62589, Dec. 6, 1994, as amended at 66 FR 55583, Nov. 2, 2001]

The alternate operating scenario set forth below has been approved by the division and shall be added or replace the referenced conditions only if the permittee uses 10 tons or more of ethylene oxide in any consecutive 12 month period after December 6, 1996. The terms and conditions of each alternate operating scenario have been developed to ensure compliance with the applicable regulations. All conditions not specified under an alternate operating scenario shall remain unchanged from their permit values or requirements.

**Operating Limitations** for aeration room vents shall be replaced with the following.

1. §63.363(c) requires the following standard for aeration room vents after the December 6, 1999 applicability date:  
Aeration room vents emissions shall be manifolded to this catalytic oxidizer if the oxidizer is an appropriate size and the permittee chooses to comply with §63:362(d) requirements through this oxidizer (see §63:363(c), for further details and alternatives).
2. The following shall be added to the **Emission Limitations** section.  
§63.362(d) requires the following for each aeration room vent after the December 6, 1999 applicability
3. Ethylene oxide emissions to the atmosphere shall be reduced by at least 99 percent or to a maximum concentration of 1 ppmv.

## SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

### **Compliance Demonstration Method:**

Demonstration may be accomplished through several methods (see 40 CFR 63, Subpart O for further details) but the only method relevant to this catalytic oxidizer is compliance with Operating Limits B.1a, B.1d. and B.1e. or the use of test procedures contained in §63.365(c)(1), if the permittee chooses parameter monitoring for the aeration room vent limitation. Other compliance demonstration methods of importance are associated with some other form of emission control or verification.

4. The following shall be added to the end of the **Testing Requirements** section.  
Ethylene oxide emissions from the aeration room vents require no testing if vented to this oxidizer (see §63.365(c) and (d), for details of testing requirements if some other method of compliance is chosen).

Note: A continuous monitoring system quality control program is required to be developed and implemented if the source uses more than 10 tons, as required by §63.8(d).

**SECTION I - COMPLIANCE SCHEDULE**

Not Applicable